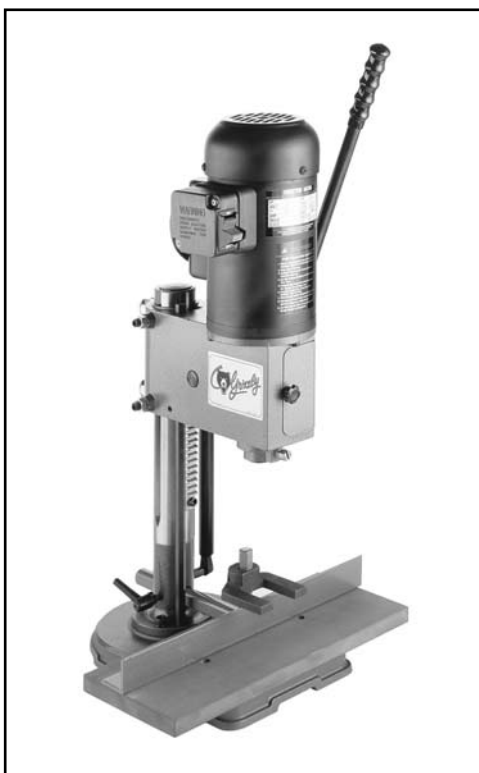




# **HOLLOW CHISEL MORTISER**

## **MODEL G3183**

# **INSTRUCTION MANUAL**



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REVISED NOVEMBER, 1996 PRINTED IN USA



# **WARNING!**

**Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemical are:**

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

**Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.**

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# SECTION 1: INTRODUCTION

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Grizzly Imports, Inc. is proud to offer the Model G3183 Hollow Chisel Mortiser. This Model G3183 is a part of Grizzly's growing family of fine wood-working machinery. When used according to the guidelines stated in this manual, you can expect years of trouble-free, enjoyable operation.

The Model G3183 is intended for home and medium-duty professional use. This Model G3183 features a 3450 R.P.M., 1/2 H.P. capacitor-start motor, mechanical ON/OFF switch and an adjustable depth stop.

All running parts utilize shielded ball bearings, which require no lubrication for the life of the bearings.

We are also pleased to provide this manual with the Model G3183. It was written to guide you through assembly, review safety considerations, and cover general operating procedures. It represents our latest effort to produce the best documentation possible. If you have any criticisms that you feel we should address in our next printing, please write to us:

Grizzly Industrial, Inc.  
% Technical Documentation  
P.O. Box 2069  
Bellingham, WA 98227

Most important, we stand behind our machines. We have two excellent regional service departments at your disposal should the need arise. If you have any service questions or parts requests, please call or write to us at the location listed below.

Grizzly Industrial, Inc.  
1203 Lycoming Mall Circle  
Muncy, PA 17756  
Phone: (570) 546-9663  
Fax: (800) 438-5901  
E-Mail: techsupport@grizzly.com

To operate this or any power tool safely and efficiently, it is essential to become as familiar with it as possible. The time you invest before you begin to use your Model G3183 will be time well spent. **DO NOT** operate this machine until you are completely familiar with the contents of this manual.

# Safety Rules For All Tools

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1. **KNOW YOUR POWER TOOL.** Read the owner's manual carefully. Learn the tool's applications and limitations, as well as its particular hazards.
2. **KEEP ALL GUARDS IN PLACE** and in working order.
3. **GROUND ALL TOOLS.** If an adapter is used to accommodate a two-prong receptacle, the adapter plug must be attached to a known ground. Never remove the grounding prong.
4. **REMOVE ADJUSTING KEYS AND WRENCHES.** Make it a habit to check that keys and wrenches are removed from the machine before turning it on.
5. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
6. **AVOID DANGEROUS ENVIRONMENTS.** Do not use power tools in damp or wet locations or expose them to rain. Keep your work area well lighted.
7. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance away from your work area.
8. **MAKE WORKSHOP CHILD-PROOF** with padlocks, master switches, or by removable starter keys.
9. **DO NOT FORCE TOOL.** Tools work better and safer when they are allowed to perform at their own speed.
10. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, or jewelry that can get caught in moving parts. Non-slip footwear must be worn. Long hair should be tied back or wear a hat.
11. **NEVER STAND, OR LEAN ON THE TOOL.** Doing so could cause injury.
12. **USE SAFETY GLASSES AND EAR PROTECTION.** Also use a **DUST MASK** if the operation is dusty.
13. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
14. **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. **DISCONNECT TOOLS FROM POWER** before servicing and when changing accessories.
16. **AVOID ACCIDENTAL STARTING.** Make sure the switch is in the "OFF" position before plugging in the cord.
17. **CHECK DAMAGED PARTS.** Do not operate the machine until you are certain it is in perfect running condition.
18. **NEVER LEAVE THE TOOL RUNNING UNATTENDED - TURN POWER OFF.** Do not leave the tool until it comes to a full stop.
19. **DO NOT OPERATE THE TOOL IF USING DRUGS, ALCOHOL, OR MEDICATION.**
20. **DO NOT WORK IN HASTE** or operate machine if you are fatigued.
21. **IF THERE IS SOMETHING YOU DO NOT KNOW OR UNDERSTAND ABOUT THIS TOOL, DO NOT OPERATE IT!** Ask for help first. Confusion can lead to disaster.
22. **BAD HABITS ARE DANGEROUS.** Review all safety procedures often.

These safety rules cannot cover every situation in a woodshop. Consider your conditions when setting up or operating your Hollow Chisel Mortiser.

# Unpacking

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The Model G3183 Hollow Chisel Mortiser is shipped from the manufacturer in a carefully packed carton. If you discover the machine is damaged after you've signed for delivery, *please call Customer Service immediately for advice.*

Save the containers and all packing materials for possible inspection by the carrier or its agent. *Otherwise filing a freight claim can be difficult.*

**Caution:** The Model G3183 is a heavy machine, 45 lbs. shipping weight. **DO NOT** over-exert yourself while unpacking or moving your machine – get assistance. In the event that your Hollow Chisel Mortiser must be moved up or down a flight of stairs, be sure that the stairs are capable of supporting the combined weight of people and the machine.

When you are completely satisfied with the condition of your shipment, you should inventory its parts.



# Piece Inventory

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After all the parts have been removed from the carton, you should have:

- Mortising Machine
- Hydraulic Cylinder
- Handle Bar
- 5/8" Chisel Bushing
- 3/4" Chisel Bushing
- Chuck Key
- Spindle Extension
- Wood Table
- Hold Down
- Fence
- 4 & 5mm Allen Wrenches
- Flat Head Screw M6-1.0x20mm(2)

In the event that any non-proprietary parts are missing (e.g. a nut or a washer...), we would be glad to replace them, or, for the sake of expediency, replacements can be obtained at your local hardware store.



# Clean up

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The column and other unpainted parts of the Model G3183 are coated with a waxy oil that protects them from corrosion during shipment. Remove the protective coating with mineral spirits and paper towels. Do not use gasoline or other petroleum based solvents because of their extremely low flash points. Do not use chlorine-based solvents – if you happen to splash some onto a painted surface, you'll ruin the finish.

## **WARNING!**

***Follow the safety rules listed below when working with solvents:***

1. Read and follow all directions and warnings on the solvent label.
2. Work only in a well ventilated area.
3. Do not work near any type of open flame (e.g., pilot lights, kerosene heaters, and so on).
4. **DO NOT** smoke while working with flammable material.
5. Paper towels from the cleaning process are extremely combustible. Dispose of waste towels so they do not create a fire hazard.



# Site Considerations

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1. **Mounting:** We recommend mounting your Hollow Chisel Mortiser to a bench. This will prevent the machine from tipping over and to allow for maximum leverage when mortising.
2. **Working Clearances:** Consider existing and anticipated needs, size of material to be processed through each machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your Hollow Chisel Mortiser.
3. **Lighting and Outlets:** Lighting should be bright enough to eliminate shadow and prevent eye strain. Electrical circuits should be dedicated or large enough to handle amperage requirements. Outlets should be located near each machine so power or extension cords are clear of high-traffic areas. Observe local electrical codes for proper installation of new lighting, outlets, or circuits.



# Circuit Requirements

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The motor supplied with the Model G3183 is a 110V single-voltage motor, prewired for 110V. Under normal use, the motor draws approximately 6 amps @ 110V. We recommend using a 15 amp circuit breaker or a 15 amp slow blow fuse for 110V operation. This should be satisfactory for normal use, while preventing motor damage from high heat caused by overload. If frequent circuit failures occur when using the Hollow Chisel Mortiser, contact our service department or your local electrical contractor. The Hollow Chisel Mortiser cannot be wired for 220V operation.

**This equipment must be grounded.** Please ensure that the Hollow Chisel Mortiser is continuously grounded from the motor to the machine frame and then to a known ground. Verify that any existing electrical outlet and circuit you intend to plug into is actually grounded. If it is not, it will be necessary to run a separate 12 A.W.G. copper grounding wire from the outlet to a known ground. Under no circumstances should the grounding pin from any three-pronged plug be removed.

**Extension Cords:** If used, extension cords must be rated Hard Service (grade S) or better. Conductor size must be 14 A.W.G. for cords up to 50 feet in length. Your extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords if they become damaged.

**CAUTION:** Be sure that your particular electrical configuration complies with local and state codes. The best way to ensure compliance is to check with your local municipality or licensed electrician.



# Tools Required

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The Model G3183 Hollow Chisel Mortiser has been largely pre-assembled at the factory. However, some components must be assembled or installed after delivery. We have organized the assembly process into steps. Please follow along in the order in which we have presented them here. We also recommend that you spend some time with the diagrams and parts lists to become familiar with all the parts before you begin.

**Tools Required:** Common hand tools are all that are necessary to assemble this machine. Specifically, you will need a screwdriver, 4mm and 5mm hex wrenches (provided) and a Phillips screwdriver.





# SECTION 2: ASSEMBLY

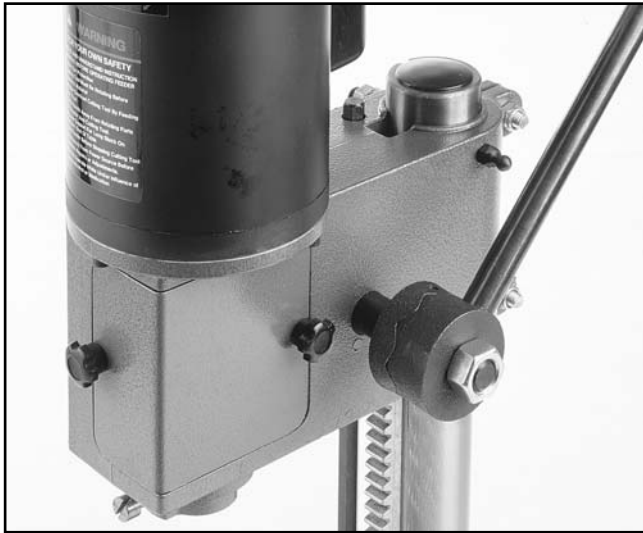
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## Hydraulic Cylinder

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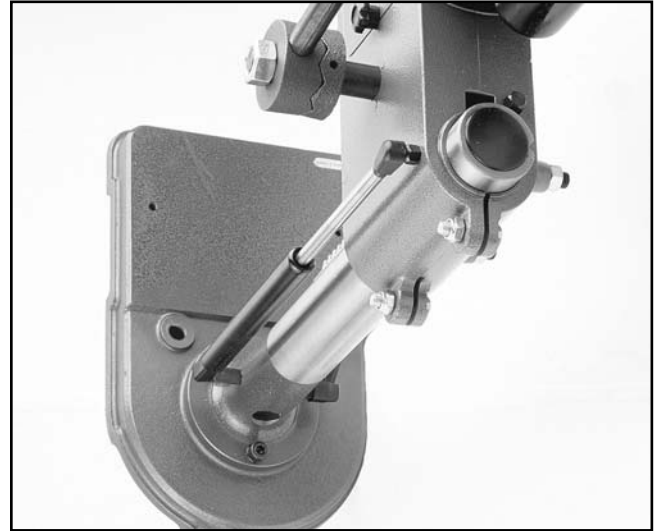
To install the Hydraulic Cylinder:

1. Screw the handle bar into the adjustable gear on the right side of the mortising machine and raise the head to its highest position. **Figure 1.**



**Figure 1.**

2. With the head fully extended above the mortiser's base, snap the hydraulic cylinder into the fittings located on the right side of the head and at the base of the column. **Figure 2.**



**Figure 2.**



# Table

To install the table:

1. Position the wood table on the base and secure with two screws provided. **Figure 3.**



**Figure 3.**

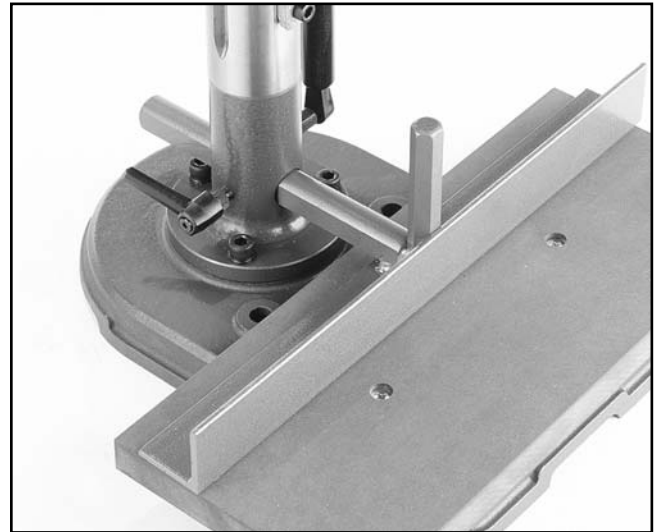
2. Secure the machine to a suitable work surface by fastening bolts through the holes provided in the mortiser's base. This will eliminate the possibility of the machine tipping while in use.



# Fence

To install the fence:

Insert the fence bar through the hole in the column. **Figure 4.** It may be necessary to back out the lock knob a few turns so the fence bar will pass through.



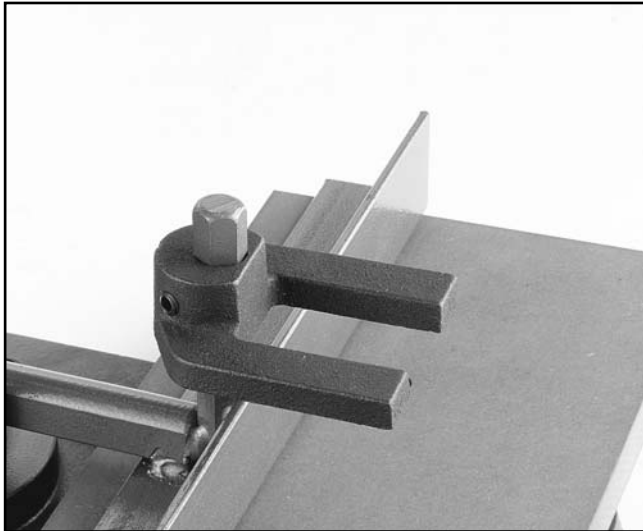
**Figure 4.**



# Hold Down

To install the hold down:

Slide the hold down assembly over the vertical post so the fingers extend forward of the fence over the table. Leave the setscrew loose for now. **Figure 5.**

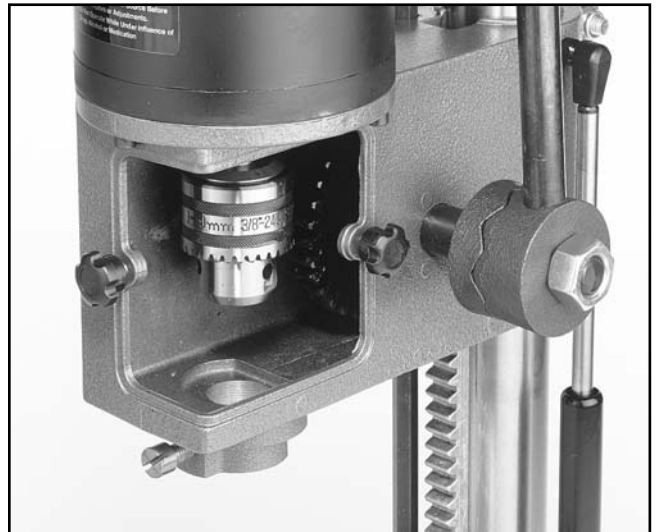


**Figure 5.**



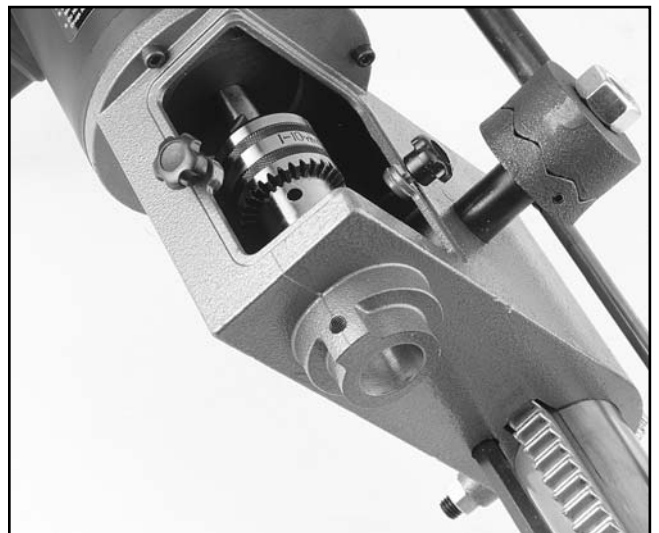
# Chisel Installation

1. Remove the chuck cover on the mortiser's head by loosening the knobs at the front and side of the cover plate. **Figure 6.**



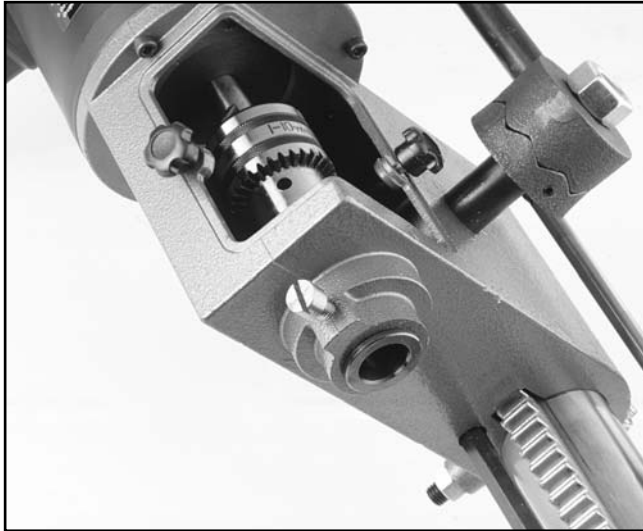
**Figure 6.**

2. Mortise chisels have either a  $\frac{5}{8}$ " or  $\frac{3}{4}$ " mounting shank. Determine which chisel you want to use and locate the proper chisel bushing. Remove the brass screw located on the front, bottom of the headstock. **Figure 7.**



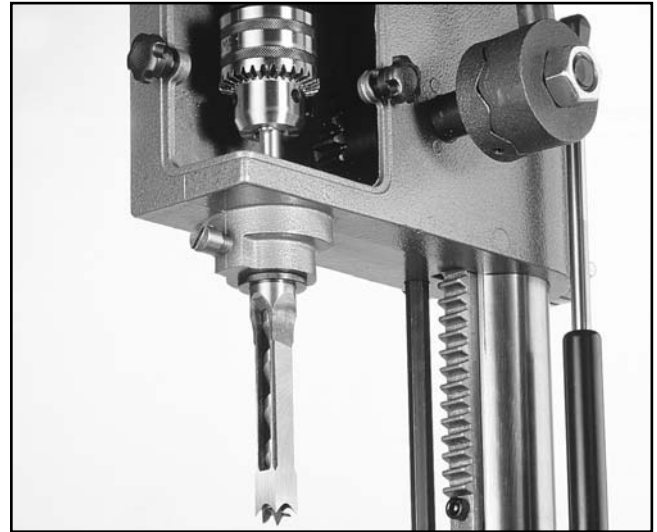
**Figure 7.**

3. Place the bushing in the opening directly under the chuck. Align the hole on the side of the bushing with the threaded hole in the front of the headstock. Once in place, thread in the brass screw. **Figure 8.**



**Figure 8.**

4. Insert the bit into the chisel, then insert both through the bottom of the bushing. Loosen the brass screw, if necessary, to allow the chisel and bit to pass by. Push the chisel as far as it will go into the head assembly. Tighten the brass screw to hold the chisel in position. **Figure 9.**



**Figure 9.**

5. Feed the bit into the chuck until the tip of the bit extends between  $\frac{1}{16}$ " and  $\frac{3}{16}$ " below the tip of the chisel edge. Once you have properly aligned the bit and chisel, tighten the chuck with the chuck key provided in the package.

**NOTE:** If the bit extends beyond the maximum  $\frac{3}{16}$ " below the chisel, even when fully engaged in the chuck, it will be necessary to shorten the shank of the bit to achieve proper clearance.

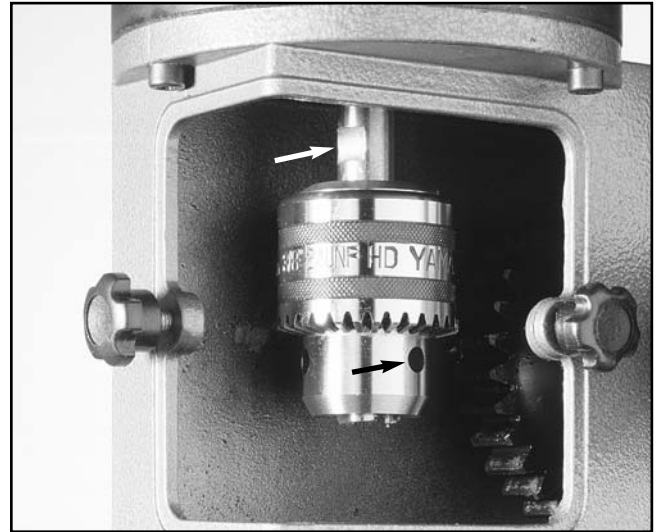


# Chuck Extender

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The use of the chuck extender is only necessary if the chisel is too short to reach the chuck. The extender will lower the chuck approximately 1". To install the extender:

1. Remove the chuck cover on the mortiser's head by loosening the knobs at the front and side of the cover plate.
2. Hold the motor shaft in place with a 10mm wrench. Insert a phillips screwdriver into the chuck key hole and unscrew the chuck in a clockwise direction. **Figure 10.**



**Figure 10.**

3. Thread the chuck extender onto the end of the motor shaft then thread the chuck on.
4. Lightly tighten the chuck onto the extender.



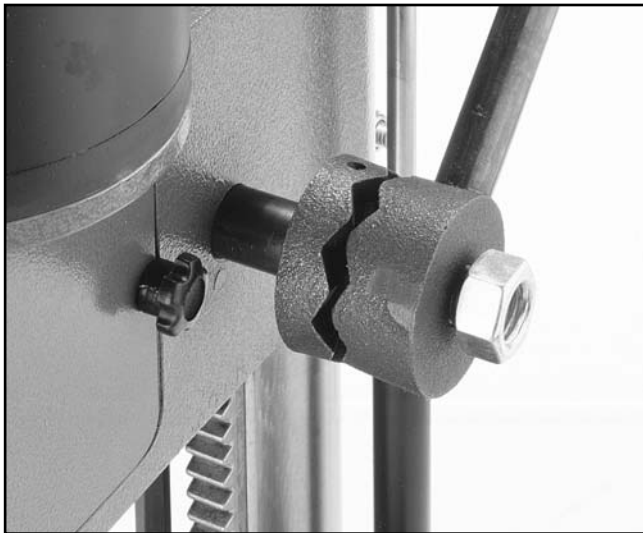
# SECTION 3: ADJUSTMENTS

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## Headstock

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The handle bar on the Model G3183 Hollow Chisel Mortiser raises and lowers the head by rack-and-pinion gearing. The handle bar can be adjusted for comfort and maximum leverage by loosening the nut at the end of the pinion shaft just enough for the right and left adjustable gears to disengage. **Figure 11.**



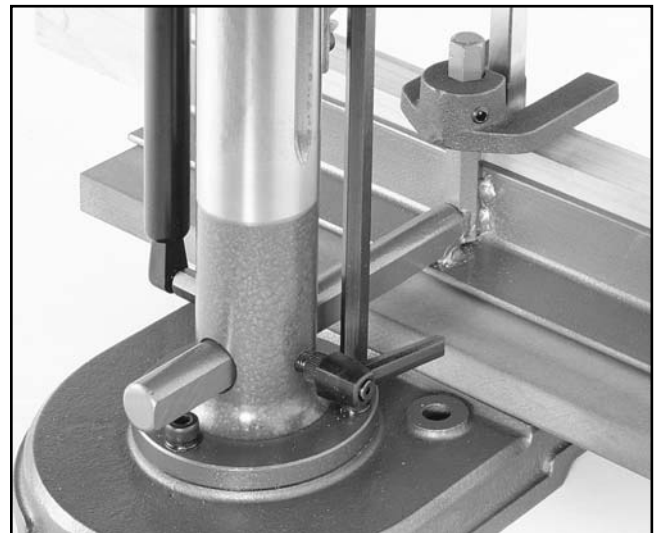
**Figure 11.**



## Fence

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The fence can be moved forward and backward to adjust for each project. To move the fence, loosen the lock handle at the side of the column, move the fence to the desired position and re-tighten the handle. **Figure 12.**



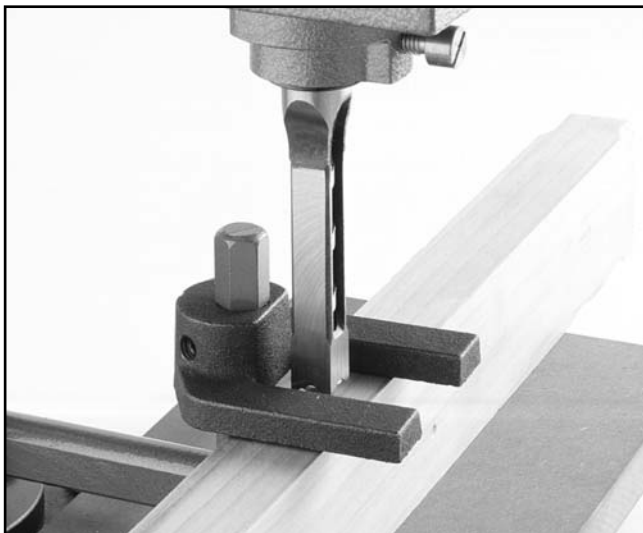
**Figure 12.**



# Hold Down

The hold down is designed to prevent the workpiece from lifting when the chisel is retracted. The hold down should be adjusted so it just comes in contact with the workpiece – allowing it to move side-to-side, but not up and down. To adjust the hold down, loosen the setscrew at the vertical post, move the hold down to the desired height and tighten the setscrew. The hold down can be flipped upside down to accommodate larger stock. **Figure 13.**

**NOTE:** Ensure that the hold down is centered so its fingers do not interfere with chisel movement. The vertical post is flattened on one side. Position the hold down so the setscrew meets the flat surface.

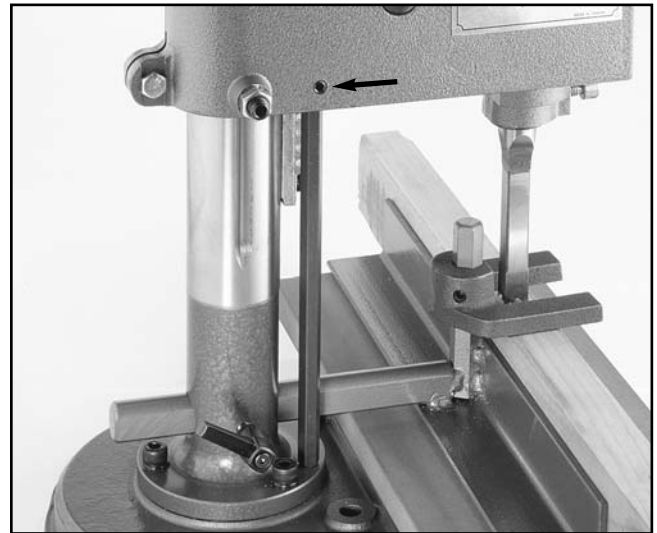


**Figure 13.**



# Depth Stop

The depth stop rod allows you to control the depth of your mortise cuts by limiting the distance the head can be lowered. To set the desired mortising depth, lower the head until it is a proper distance from the table. Loosen the setscrew on the left side of the head and drop the depth stop rod until it touches the base. Tighten the setscrew. **Figure 14.**



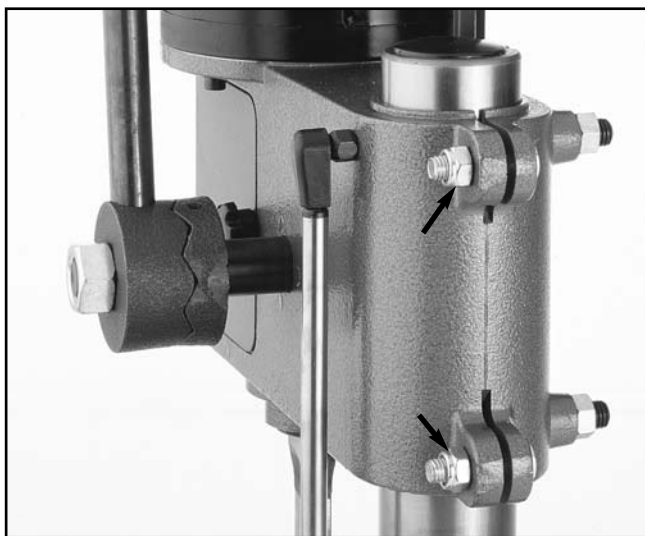
**Figure 14.**



# Head Adjustment

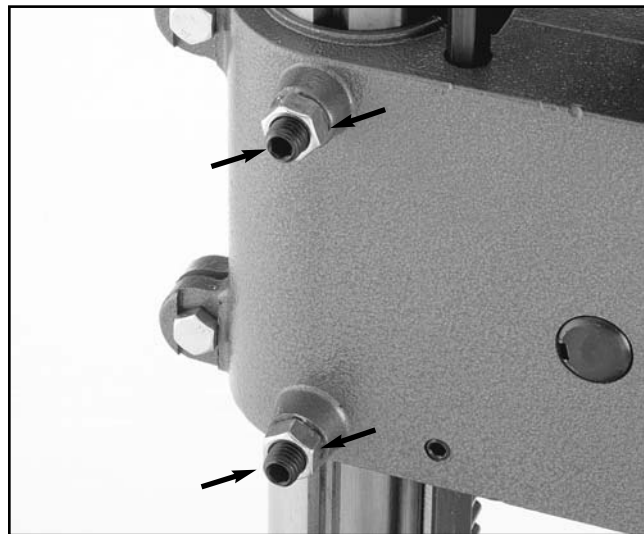
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Proper adjustment of the head and column is necessary to ensure that mortiser travel is smooth and precise. Two bolts located at the back of the head control the tightness of the head and column. If movement of the head becomes sloppy, tighten the bolts until the travel is smooth and solid. Should the head movement become too difficult, loosen the bolts until movement is satisfactory. **Figure 15.**



**Figure 15.**

Two setscrews mounted just forward of the bolts ensure that side-to-side movement is minimal. If head displays excess wiggle from side-to-side, loosen the locknuts and tighten the setscrews until movement is eliminated. Tighten the locknuts. **Figure 16.**



**Figure 16.**





# SECTION 4: OPERATIONS

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## Safety Rules

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Earlier in this manual we covered general shop and machine safety rules. This section will address safety rules specific to your mortiser.

- Be sure to observe all electrical requirements such as fuse sizing, wire sizing, machine grounding and any other electrical consideration.
- Always wear eye protection while operating this mortiser. Also use a respirator to avoid breathing dust. All safety equipment must be ANSI approved.
- Always be aware of the condition of the wood you are mortising. Pay particular attention to knots, splits, and other potentially dangerous areas.
- Never attempt to operate the mortiser with bits or chisels that are dull or damaged. They will burn the wood and cause it to bind.
- Maintain the mortiser in proper working condition. Perform machine inspections and maintenance services promptly when called for.
- Always put adjustment tools away after use.
- Before machine inspection, maintenance or changing accessories: Turn off switch, unplug power cord and wait for all moving parts to stop.
- Keep hands away from the chisel and bit while this tool is being operated.
- Always have the chisel opening facing away from the operator or the fence.
- The bit should reach full speed before beginning a cut.
- Always feed chisel evenly and smoothly.
- Do not touch the chisel during the mortising operation.
- Never leave the mortiser running unattended.

This sums up our review of safety guidelines. Remember that every shop has its own specific hazards. Be sure, above all else, to use good common sense and reasonable caution each time you start this Hollow Chisel Mortiser, or any woodworking machinery. Proper safety standards rarely take any more time or energy when followed religiously. Develop a habit of safety.

### Caution

**Always wear ANSI-approved safety glasses or goggles when operating equipment. Do not allow visitors into your workshop when testing or operating equipment.**

# Test Run

---

Once the assembly is complete and the adjustments are done to your satisfaction, you are ready to test the machine.

Turn on the power supply at the main panel. Press the START button. Make sure that your finger is poised on the STOP button, just in case there's a problem. The Hollow Chisel Mortiser should run smoothly, with little or no vibration or rubbing noises. Strange or unnatural noises should be investigated and corrected before operating the machine further.

**WARNING:** DO NOT attempt to investigate or adjust the machine while it is running. Wait until the machine is turned off, unplugged and all working parts have come to a rest before you do anything!

If noises occur that cannot be found by visual inspection, feel free to contact our service department for help.



# Mortising

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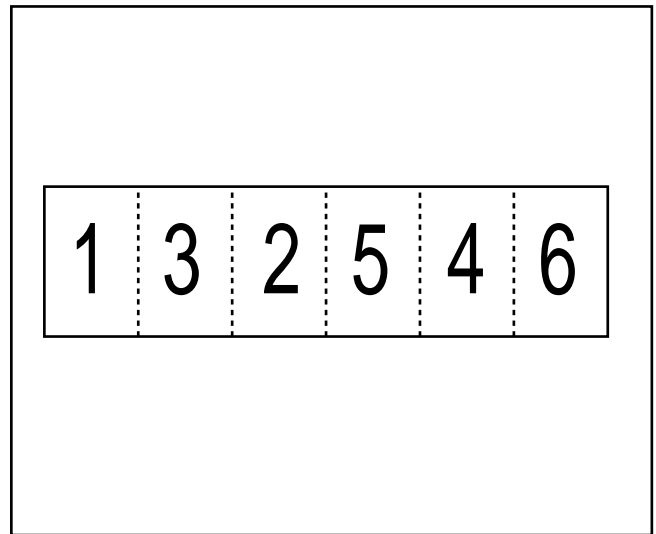
1. Place the workpiece on the table and adjust so chisel is aligned correctly for desired mortise cut.
2. Secure the fence so the workpiece is firmly supported.
3. Position the hold down as described earlier, so upward movement of the workpiece is eliminated.
4. Turn power on.
5. Lower the head by pulling the handle bar down with your right hand, while supporting the workpiece with your left hand. **NOTE:** Be extremely careful to avoid the chisel with your left hand. It is very sharp, and friction will make it hot enough to cause burns to your skin. **Figure 17.**



**Figure 17.**

6. The chisel and bit will cause some smoking as it contacts the workpiece. This is caused by friction heating resins in the wood. This does not necessarily mean that the chisel is dull. More likely, a dull chisel will cause the head to be difficult to lower.
7. An even pressure on the handle bar will provide the best mortising results. The rate of penetration should be fast enough to avoid burning the tip of the bit, but slow enough to avoid stalling the motor.
8. Placing a piece of wood between your workpiece and the mortiser's table when through-cutting will minimize tear-out.
9. When mortising thin stock, build up the height of the workpiece enough for it to clear the fence, so the hold down will function correctly.

10. When making rectangular mortises, we recommend you follow the sequence of cuts shown in **Figure 18**.



**Figure 18.**



# SECTION 5: MAINTENANCE

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## General

---

Make a habit of inspecting your Hollow Chisel Mortiser each time you use it. Check for the following conditions and repair or replace when necessary.

1. Loose mounting bolts.
2. Worn switch.
3. Worn or damaged cords and plugs.
4. Any other condition that could hamper the safe operation of this machine.



## Lubrication

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The Model G3183 Hollow Chisel Mortiser requires a minimum of maintenance. The operator should clear the machine of wood chips after every use and periodically wipe the machine of dust and grime. All of the bearings within the machine are lubricated and sealed at the factory, so lubrication by the operator is unnecessary. A periodic application of light oil on the rack-and-pinion gearing will insure smooth operation between the head and column.



# SECTION 6: CLOSURE

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The following pages contain general machine data, parts diagram, parts list, troubleshooting guide and Warranty/Return information for your Model G3183 Hollow Chisel Mortiser.

If you need parts or help in assembling your machine, or if you need operational information, we encourage you to call the appropriate regional Service Department. Our trained service technicians will be glad to help you.

If you have comments dealing specifically with this manual, please write to our Bellingham, Washington location using the address in the Introduction. The specifications, drawings, and photographs illustrated in this manual represent the Model G3183 as supplied when the manual was prepared. However, due to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. Whenever possible, though, we send manual updates to all owners of a particular tool or machine. Should you receive one, add the new information to this manual and keep it for reference.

We have included some important safety measures that are essential to this machine's operation. While most safety measures are generally universal, Grizzly reminds you that each workshop is different and safety rules should be considered *as they apply to your specific situation*.

We recommend you keep a copy of our current catalog for complete information regarding Grizzly's warranty and return policy. If you need additional technical information relating to this machine, or if you need general assistance or replacement parts, please contact the appropriate regional Service Department listed in the introduction.

Additional information sources are necessary to realize the full potential of this machine. Trade journals, woodworking magazines, and your local library are good places to start.

## **WARNING!**

*As with all power tools, there is danger associated with the Model G3183 Hollow Chisel Mortiser. Use the tool with respect and caution to lessen the possibility of mechanical damage or operator injury. If normal safety precautions are overlooked or ignored, injury to the operator or others in the area is likely.*

The Model G3183 was specifically designed for Mortising operations. **DO NOT MODIFY AND/OR USE THIS HOLLOW CHISEL MORTISER FOR ANY OTHER PURPOSE. Modifications or improper use of this tool will void the warranty.** If you are confused about any aspect of this machine, **DO NOT** use it until you have answered all your questions.



REF	PART #	DESCRIPTION
101	P3183001	CASTING BASE
102	PLW04M	LOCK WASHER 8mm
103	PSB14M	CAP SCREW M8-1.25x20mm
104	P3183104	COLUMN
105	PSS16M	SETSCREW M8-1.25x10mm
106	P3183006	HEADSTOCK
107	P3183007	DEPTH STOP ROD
108	P3183008	MOTOR
109	P3183009	RACK
110	PSB26M	CAP SCREW M6-1.0x12mm
111	PLN04M	LOCK NUT M8-1.25
112	PB26M	HEX BOLT M8-1.25x30mm
113	P3183013	TABLE
114	P3183014	FENCE
115	P3183015	HOLD DOWN
116	P3183016	LOCK HANDLE
117	P3183017	BRASS SCREW
118	PSS02M	SETSCREW M6-1.0x6mm
119	P3183019	PINION SHAFT
120	PK19M	KEY 5x5x14mm
121	P3183021	COLLAR
122	P3183022	GEAR
123	P3183123	LOWER CYL. FITTING
125	P3183125	HYDRAULIC CYLINDER
126	P3183026	LEFT ADJ. GEAR
127	PRP30M	ROLL PIN 5x50mm
128	P3183028	HEX NUT M16-2.0

REF	PART #	DESCRIPTION
129	P3183029	RIGHT ADJ. GEAR
130	P3183130	UPPER CYL. FITTING
131	P3183031	HANDLE BAR
132	P3183032	HANDLE GRIP
133	PSB24M	CAP SCREW M5-0.8x16mm
134	P3183034	SPINDLE EXTENSION
135	P3183035	CHUCK
136		SEE CATALOG
137A	P3183037A	BUSHING $\frac{5}{8}$ "
137B	P3183037B	BUSHING $\frac{3}{4}$ "
138	P3183042	CAP
139	PFH06M	FLAT HD SCR M6-1.0x12mm
140	P3183040	COVER
141	P3183041	KNOB
142	P3183047	SWITCH BASE
143	P3183046	SWITCH COVER
144	PSW07	SWITCH
145	P3183044	BRASS PIN
146	P3183048	SPRING
147	PSS10M	SETSCREW M10-1.5x20mm
148	PN02M	HEX NUT M10-1.5
149	P3183046A	SCREW
150	P3183052	POWER CORD
151	P3183051	CHUCK KEY
152	PAW 04M	ALLEN WRENCH 4mm
153	PAW 05M	ALLEN WRENCH 5mm
154	P3183154	LOGO PLATE

## MACHINE DATA

### GRIZZLY MODEL G3183 HOLLOW CHISEL MORTISER

**Design Type** ..... Bench Model

#### Overall Dimensions

Base Size .....  $.5\frac{7}{8}" \times 13\frac{1}{2}"$   
Fence Size .....  $1\frac{9}{16}" \times 13\frac{3}{4}"$   
Height .....  $.30\frac{1}{4}"$   
Overall Width .....  $13\frac{3}{4}"$   
Overall Depth .....  $13\frac{3}{8}"$   
Shipping Weight ..... 44.8 lbs.  
Weight in Place ..... 42.4 lbs.

#### Construction

Table ..... MDF  
Column ..... Precision Ground Cast Iron  
Base & Head ..... Cast Iron

#### Motor

Type ..... TEFC Capacitor Start Induction  
Horsepower .....  $\frac{1}{2}"$  HP  
Phase/Cycle ..... Single Phase/60 Hz  
Voltage ..... 110V  
Amps ..... .6  
RPM ..... 3450 RPM  
Switch ..... Toggle ON/OFF with Removable Key  
Power Transfer ..... Direct  
Bearings ..... Shielded & Permanently Lubricated Ball

#### Capacities

Chuck Capacity .....  $\frac{3}{8}"$   
Chisel Capacity .....  $\frac{5}{8}"$ ,  $\frac{3}{4}"$  Shank  
Hold Down Capacity .....  $.4\frac{1}{4}"$   
Head Travel .....  $.4\frac{3}{4}"$

*Specifications, while deemed accurate, are subject to change without notice.*



# TROUBLESHOOTING GUIDE

Noisy operation	Dry drill bit shaft	Lubricate drill bit shaft
Bit burns or smokes	<ol style="list-style-type: none"> <li>1. Chips not coming out of hole</li> <li>2. Dull bit</li> <li>3. Feed rate too slow</li> </ol>	<ol style="list-style-type: none"> <li>1. Retract bit frequently to clear chips</li> <li>2. Sharpen or replace bit</li> <li>3. Feed faster</li> </ol>
Excessive drill bit runout or wobble	<ol style="list-style-type: none"> <li>1. Bent bit.</li> <li>2. Bit not properly installed</li> <li>3. Worn or loose chuck</li> <li>4. Worn spindle bearings</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace bit</li> <li>2. Remove bit and install properly</li> <li>3. Replace chuck</li> <li>4. Replace bearing</li> </ol>
Drill binds in workpiece piece	<ol style="list-style-type: none"> <li>1. Workpiece twisting or moving</li> <li>2. Excessive feed pressure</li> </ol>	<ol style="list-style-type: none"> <li>1. Support or clamp workpiece</li> <li>2. Reduce pressure and clamp workpiece</li> </ol>

# WARRANTY AND RETURNS

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Grizzly Imports, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number", which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.